



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/435,854	11/08/1999	TIMOTHY R. PRYOR	P00891US3	5796

7590 10/20/2003  
LARSON & TAYLOR  
SUITE 900  
1199 NORTH FAIRFAX STREET  
ALEXANDRIA, VA 22314

EXAMINER -

ABDULSELAM, ABBAS I

ART UNIT PAPER NUMBER

2674

DATE MAILED: 10/20/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/435,854

Applicant(s)

PRYOR

Examiner

Abbas I Abdulsalam

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2674

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-22 and 27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. (USPN 4988981) in view of Chan et al. (USPN 5376796).

Regarding claims 1, 5, 21 and 27, Zimmerman teaches computer data entry and manipulation method and an apparatus (10) including a glove assembly (12) and position sensing receiver assembly (20) around the screen (28). Zimmerman discloses that the glove assembly comprises sensors detecting the flexing of the fingers and other gestures of the hand, and the assembly has one or more ultrasonic transducers (17) for transmitting signals to receivers (20). Further, Zimmerman teaches that the glove assembly sends signals and enters commands into the computer (16), the commands relating to the manipulation of virtual objects created by the computer and displayed on the display screen. In addition, Zimmerman teaches that movement

Art Unit: 2674

by the glove assembly in plane parallel to the display screen produces the corresponding movement by the cursor. See Fig 3, lines 5-52 and FIG 1, col. 1, lines 10-16, col. 3, lines 53-64 and Fig 6. However, Zimmerman does not teach "electro-optically determining, using at least one TV camera, a position of one or more points on a user or an object. On the other hand, Chan, referring Fig. 3, illustrates a dual camera system (200, 201) utilizing two proximity detectors (100, 110) that can be used to gather and generate the profiles of a patient (59) in various sides and angles. Chan further teaches that the detected profiles of the patient (59) are then processed by the computer system (210) and displayed on the display screen (216). See col. 7, lines 58-68 and col. 8, lines 1-65.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zimmerman's gesture and position based computer system to adapt Chan's use of dual camera along with profile determination of a body (patient). One would have been motivated in view of the suggestion in Chan that the profile determination technique and the use of two cameras (200, 201) as configured in Fig. 3 equivalently provide the desired determination of one or more points on an object. The use of profile determination helps a computer system (210) display the needed part of the patient's body as taught by Chan.

Regarding claim 2, Chan teaches the use of a dual camera system (200, 201). See col. 7, lines 58-62 and Fig. 3.

Regarding claim 3, see Chan's Fig. 3 (200, 201, 216).

Regarding claim 4, see Chan's Fig. 3 (215).

Art Unit: 2674

Regarding claim 6, Zimmerman teaches the distances measured between the glove and the three receivers in terms of coordinates (x, y, z) in rectangular coordinate system. See col. 6, lines 11-32.

Regarding claim 7, Zimmerman teaches a glove with sensors for detecting and flexing of finger joints and contacts on different parts of the hand. Col. 1, lines 42-45.

Regarding claims 8-9 and 11-15, see Zimmerman's Fig. 1 (20, 22, 24, 28).

Regarding claims 10 and 22, Zimmerman teaches the method of manipulation with respect to tools such as a virtual steering wheel. See col. 1, lines 52-68.

Regarding claims 16-20, Zimmerman teaches that as the user of the system moves his hand in space, the position and orientation of the glove are continuously detected. See col. 8, lines 10-19, and Fig 6 (140).

### Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 2674

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314**

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Application/Control Number: 09/435,854

Page 6

Art Unit: 2674

Abbas Abdulsalam

Examiner

Art Unit 2674

October 3, 2003

A handwritten signature in black ink, appearing to read 'Richard Hjerpe', with a stylized, cursive script.

**RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600**